



Council on Efficient Operations

Vehicle Management and Maintenance

*Opportunities to Improve the State of
Missouri's Vehicle Fleet Efficiency*



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As you know, the Council on Efficient Operations (CEO) is working with employee teams to cut costs, improve efficiency, and increase productivity. One such group, the Vehicle Management and Maintenance Team, has reviewed the state's vehicle costs and operations. The team spent long hours researching both the issues and potential solutions. As a result, the team recommends a series of actions and steps. The CEO asks for your help and support in implementing the team's recommendations.

The attached report lists the team's recommendations, provides background information, rationale, implementation steps, and a timeline. Members of your staff developed this plan and can provide specific information on how these recommendations will impact your department. If you have any questions or concerns, please contact me or my assistant, Matthew Benton, at (573) 751-0382.

Sincerely,


ROGER B. WILSON

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Executive Summary

Opportunities to Improve the State of Missouri's Vehicle Fleet Efficiency

Missouri state government is working hard to improve its effectiveness and efficiency. Through the Council on Efficient Operations (CEO), the State of Missouri has embarked on numerous projects that reduce costs, improve customer service, and streamline government. One such project has focused on state vehicle management and maintenance.

Like the federal government, other states, and private businesses, Missouri state government requires transportation for a variety of purposes. As an example, state vehicles are used to transport social workers to client locations, supplies and cargo to and from warehouses, and employees to meetings, conferences, and work sites. To meet these transportation needs, departments have historically either (1) procured vehicles and managed their fleets as individual departments, or (2) allowed employees to operate their own vehicle and be reimbursed.

Purchasing vehicles for state use has required considerable investment. In total, the state operates over 7,000 vehicles, excluding colleges and universities. The value of the passenger vehicle fleet is estimated to be at least \$81 million (*See Appendix A - "State Vehicle Fleet's Value"*). Additionally, millions are spent annually for the following¹:

Automobile Purchases	\$16,597,163
Truck & Van Purchases	\$21,075,118
Vehicle Maintenance Supplies	\$20,737,934
Auto Maintenance & Repair	\$1,338,162
Truck Maintenance & Repair	\$552,265

The mileage reimbursement option also requires significant annual expenditures. In Fiscal Year 1996, Missouri State government spent \$33 million for in-state travel

¹ Office of Administration, Division of Accounting, Fiscal Year 1996 Expenditures, Object Codes 2621, 2623, 2215, 2671, and 2673.

reimbursements. While this figure includes hotel and meal expenses, an estimated 30 - 40% of the reimbursement is mileage reimbursement, or \$13 million.²

Due to the significant life-time and annual expenses incurred, the Council on Efficient Operations chose to review state vehicle operations, including their management, maintenance, and use. In November 1996, the CEO formed a team of state employees to research these issues. The team was comprised of fleet managers, purchasing agents, vehicle users, inventory control specialists, and department management. Additional research involved individuals from both the private and public sector, including vehicle mechanics, leasing companies, and federal, state and corporate fleet managers.

Issues of Concern

The CEO - Vehicle Management and Maintenance Team began its work by benchmarking the state's current vehicle operations and costs. In fact, the team reviewed a November 1988 study of Missouri's vehicle fleets by Ernst & Whinney.³ The study and the CEO's analysis allowed the team to focus on those expenditures which are the most costly, and thus, could potentially produce the greatest savings. (*See Appendix B - "Average Fleet Vehicle Costs"*). By reviewing procurement methods, inventories, maintenance records, and other materials, the team developed a list of issues that need to be addressed. The team's findings include:

- The state does not have a coordinated ability to acquire, manage, track, maintain, or fuel state vehicles.
- Agencies find it difficult to maintain vehicles for another department.
- Agencies do not borrow or lease vehicles from other departments.
- The state has duplicative vehicles within the same area, ie, one department's vehicle will follow another department's vehicle to the same location.
- The state does not utilize life cycle costing - life of the vehicle vs. value of the vehicle.
- The state may utilize costly methods to transport employees to locations; employees do not always use the most economic vehicles (personal, rental, or state-owned).

² Office of Administration, Division of Accounting. Fiscal Year 1996 Expenditures, Object Code 2105.

³ Ernst & Whinney. "Improving Fleet Management and Operations in the State of Missouri. - Briefing on Findings and Program Recommendations." November 1988.

Addressing the Issues

Based on research, the team developed a list of outcomes it hoped to achieve. These outcomes describe the desired state of operations, which the team has worked toward. Team outcomes are as follows:

- Cooperation between departments.
- Efficiency/reduced cost, including better utilization of vehicles.
- Easier, less cumbersome maintenance.
- Insurance concerns when employees drive their own vehicles is resolved.
- Compliance with alternative fuel guidelines.
- Customer service (safety, ease of operation).
- An effective process to assess state versus private maintenance.

The team's research supports these outcomes. To achieve these results, the team has developed a set of recommendations that will: (1) improve the management and maintenance of state vehicles; (2) address state and employee liability and insurance issues in regard to vehicle operation; (3) assist state compliance with alternative fuel regulations; and (4) provide direction for inter-departmental sharing and cooperation.

Recommendations

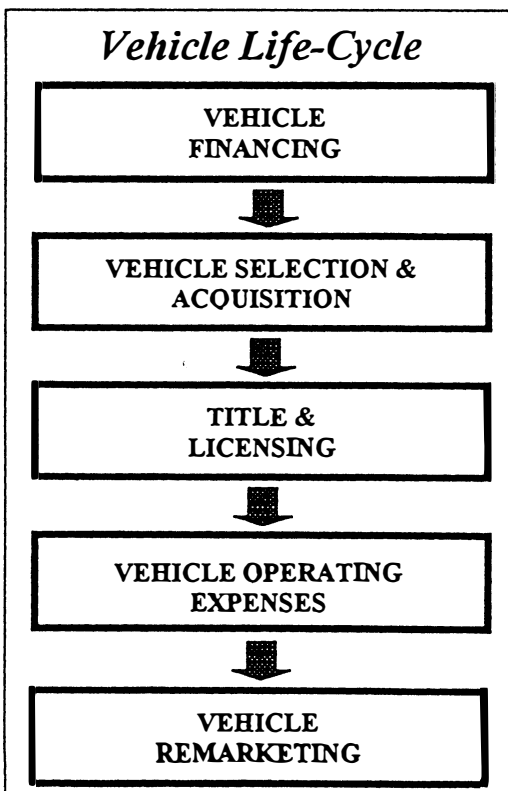
1. **Develop and implement a collaborative plan for purchasing, replacing, and re-marketing state vehicles.**
2. **Implement a standard vehicle tracking policy and method.**
3. **Implement a standard vehicle assignment and use policy.**
4. **Develop and implement a comprehensive maintenance program for all state vehicles..**
5. **Implement a fuel program, utilizing an electronic fuel card, to be used by all state vehicle fleets.**
6. **Standardize the decision process when selecting vehicle travel methods (personal, state, or rental).**

Recommendation #1

Develop and implement a collaborative plan for purchasing, replacing, and re-marketing state vehicles.

Rationale

As team members researched fleet operations, they found that private sector businesses and fleet companies manage their fleets on the "life-cycle costing" basis. This method examines all costs associated with acquiring, maintaining, and disposing of a vehicle. In turn, the method allows fleet managers to identify specific fleet costs and make decisions based on scientific, statistical facts.



For the private sector, life-cycle costing includes taxes, licensing fees, and financing charges. However, the most expensive cost to the private sector is the cost of depreciation - the difference between the original cost and the resale value.⁴

Government, however, does not always consider the cost of depreciation when purchasing and operating vehicles. This depreciation loss represents over 52% of the total life-cycle cost to own and operate a state vehicle. (See Appendix B - "Average Vehicle Fleet Costs").

In their review, team members noted that life-cycle costs can be improved through a number of methods. Private corporations and fleet companies minimize fleet costs by: (1) reducing the purchase price through bulk purchasing and increased rebates; (2) increasing the resale value by maintaining the vehicle's condition, purchasing vehicles with a higher remarketing probability, and disposing of vehicles through auction houses, and (3) disposing of the vehicle at the optimal replacement point in the life-cycle. Team members believe the State of Missouri can reduce

⁴ GE Capital Fleet Services. "1998 Route to Excellence - Fleet Management and Vehicle Guide." Pg. 5.

fleet costs by adopting many of the practices used by the private sector.

Implementation

1.1 Continue the bulk purchasing of vehicles.

Purchasing vehicles at the lowest possible cost is the first step at reducing total fleet costs. Many states and businesses have found that by purchasing in bulk, individual vehicle prices can be reduced to below sticker price.

For several years, the Office of Administration, Division of Purchasing and Materials Management has established contracts with dealers at reduced rates. The CEO team examined these prices and found them among the lowest in the fleet management industry. Due to the state's bulk purchasing power, and strong negotiations, the state is purchasing vehicles cheaper than many leasing companies and other fleets.

The only potential reduction in purchasing price could be found if the state could contract directly with the manufacturer, as opposed to a dealer. Currently, manufacturers do not sell directly to fleets, yet automotive industry experts predict that this change will occur in the future.

The CEO team will continuously review whether purchase prices can be reduced.

1.2 Continue purchasing vehicles with good resale or remarketing value.

Well-managed vehicle fleets, both private and public sector, focus their purchasing on vehicles which hold their value and can be resold at a good price. In the past, the philosophy of many fleet managers was to purchase vehicles that were "stripped" down. These vehicles did not have amenities such as air conditioning, a radio, power brakes and steering, or other options. While these automobiles cost less to purchase, they were difficult to sell and did not attract the most favorable resale prices.

While many items now come standard, automobile industry statistics show that when vehicles are traded in or sold, the resale value fluctuates depending upon options. Typically, the difference in the resale value of a reasonably equipped and a basic vehicle is the original cost of the options. As an example, a mid-sized sedan could cost \$15,000 without any options, or \$16,000 for cruise control, tilt, power locks and windows, and AM/FM Cassette; or \$1,000 for the options. Yet, when traded in at 60,000 miles, the non-option car would retrieve \$4,000, and the car with options \$5,500.

Likewise, a study by the National Association of Fleet Resale Dealers (NAFRD) indicates that vehicle color can be worth up to \$600 in resale proceeds. The NAFRD recommends that fleets adhere to the following color guidelines when purchasing vehicles:

- White, red, and blue have consistently returned higher prices in the resale market. Green is a recent addition to the best-seller list.
- Trendy colors sell better on sporty models than on sedans and vans.
- Avoid tan, beige, gold/bronze, black, brown, and yellow colors.
- Avoid dark colors in warm weather states. Dark colors tend to show scratches more readily.

While color difference may seem unimportant, the added resale value at trade-in/sale time should be considered when selecting vehicle color.

In addition to increasing resale, reasonably equipped vehicles provide employees a more suitable environment while performing their jobs.

1.3 Implement a vehicle replacement cycle that focuses on cost reduction and optimal vehicle use and efficiency.

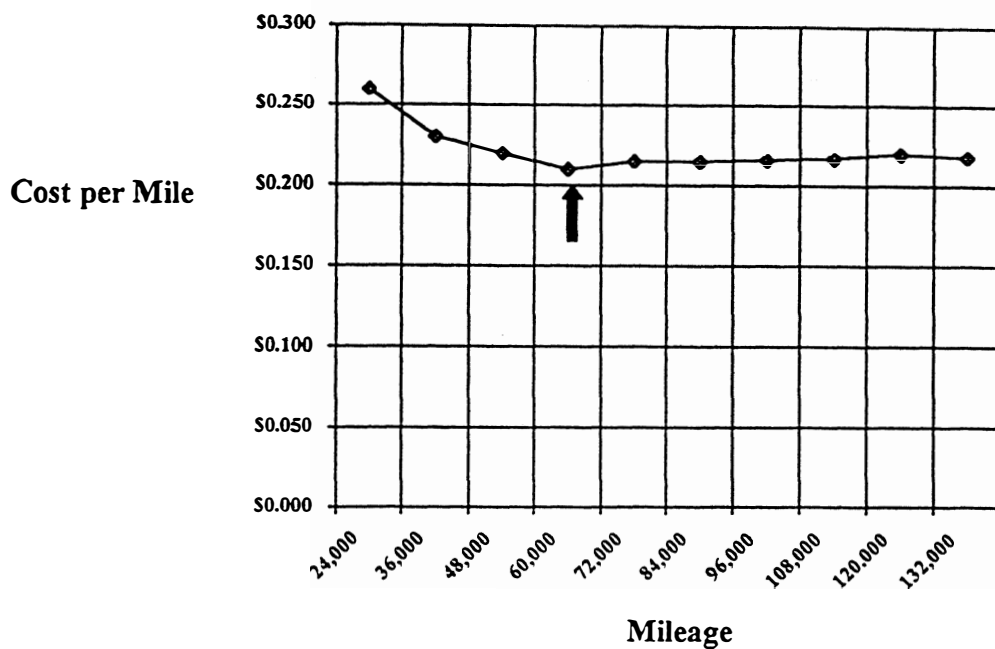
A study of vehicle fleets indicates that each vehicle class (i.e. mid-sized, pickups, etc.) has an optimal use range. This range indicates the point at which the vehicle has the lowest life-cycle cost per mile.

This life-cycle cost per mile includes all the expenses related to the vehicle, including original purchase price, fuel, maintenance, administrative costs, and other expenses. These expenses are divided by the total miles for a vehicle to give a per mile cost.

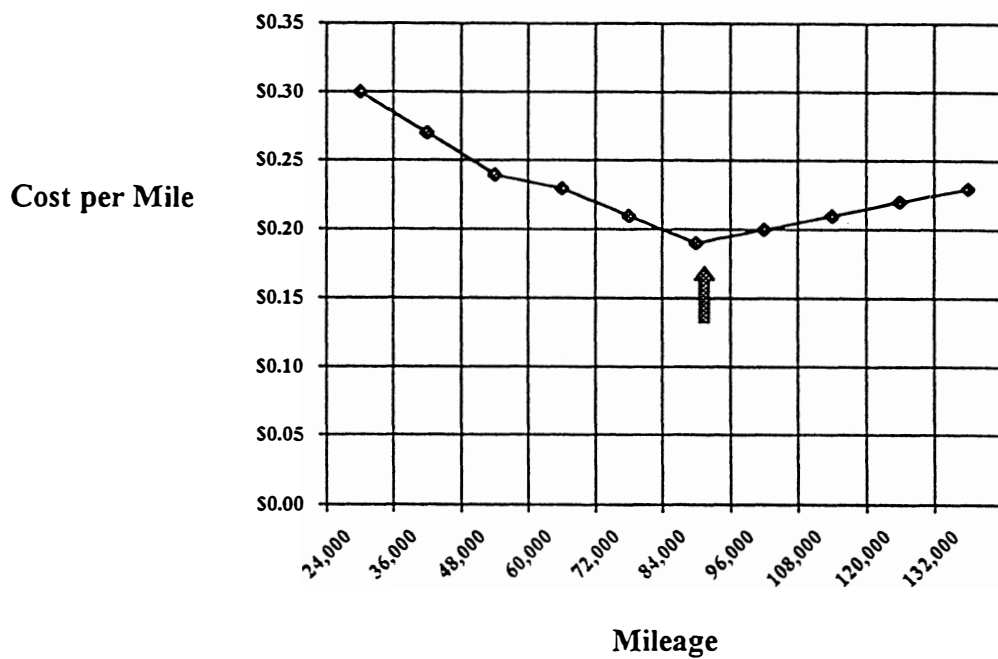
In both theory and practice, the cost of the vehicle is highest immediately after the purchase, due to depreciation. For a period of time, the cost per mile decreases. Yet, after a certain point in mileage, the cost of maintenance and repairs increases the cost per mile. Likewise, increased mileage dramatically affects resale value. (*See Appendix C - "High Mileage Table"*).

The charts below show the fleet industry's average cost per mile for mid-sized sedans and pickups. The sedan chart shows that when a new vehicle is purchased, the cost per mile (\$0.26) is relatively high due to the immediate cost of depreciation. As more miles are driven, the cost decreases, until a certain point is reached. For sedans, that point is 60,000 miles (\$0.205 per mile). The cost per mile rises incrementally after that point. Industry leaders, including the National Conference of State Fleet Administrators suggest that vehicles be replaced at that optimal point.

Mid-Sized Sedan⁵



Pickup



⁵ GE Capital Fleet Services. "1997 Route to Excellence - Fleet Management and Vehicle Guide."

Fleet managers, both public and private, manage their fleet based on the life-cycle cost-per-mile. As a vehicle reaches its lowest cost-per-mile and prior the cost's re-ascension, the vehicle is replaced. This practice not only ensures that costs are kept at a minimum, but also ensures that vehicle safety and reliability remain at a premium. Fleet managers recognize that employee trust in the vehicle, and corporate image are non-financial costs that must be considered.

Since not every state department has a standardized system to track vehicle costs, state government cannot identify its exact cost per mile. Until that time, it is recommended that the industry standard be adopted. Under this scenario, vehicles would become eligible for replacement and should be replaced according to the following schedule:

Vehicle Description	Minimum Replacement Criteria	
	<i>Years or Miles</i>	
Sub-Compact	4	60,000
Compact	4	60,000
Mid Size	4	60,000
Full Size	4	60,000
Mini Van	4	60,000
Passenger Van	7	84,000
Cargo Van	7	84,000
Carryalls	7	84,000
Sport Utility	7	84,000
Pickup <4500 GVW	7	84,000
Light Trucks 4500 - 12,499 GVW	10	100,000
Medium Trucks 12,500 - 23,999 GVW	10	100,000
Heavy Trucks	10	100,000

The CEO Vehicle Management and Maintenance team suggests that this schedule be adopted and implemented during the Fiscal Year 1999 budget, beginning July 1, 1998. Since the schedule is a recommended goal, the team realizes that it may take several years to reach the goal.

1.4 Develop and implement a vehicle tracking system which incorporates life-cycle cost information and analysis.

Studies of private sector fleets show that in order to make appropriate management decisions, vehicle tracking systems are vital. By utilizing automated systems, fleets can be tracked for all vehicle costs. In turn, the fleet can be managed for the lowest per mile cost.

An additional benefit of such a tracking system is that of simply having the record. Research conducted on the used vehicle market indicates that customers will pay higher prices for a vehicle that can be proven to be well maintained. Thus, vehicles with records showing maintenance logs and other information reap a higher resale value. An automated tracking system would provide this benefit.

This recommendation is addressed in more detail later in the report. (*See Recommendation 2*).

1.5 Develop recommendations for improving the resale of state vehicles.

CEO team members studied the process by which state government and other organizations sell and dispose of vehicles. In its review, the team found that the selling process and method is directly related to the proceeds the sale returns.

Research by the National Association of Fleet Administrators (NAFA) found that automobile auctions are the most effective means to dispose of fleet vehicles. In fact, 69% of governments utilize this mechanism.

In Missouri, only the Department of Conservation, Department of Transportation, and Highway Patrol utilize automobile specific auctions when disposing of vehicles. Other departments sell their vehicles through the State Agency for Surplus Property.

A study of vehicle sales through both methods (dedicated auction vs. surplus sale) indicates that dedicated vehicle auctions reap higher resale values. The Department of Transportation estimates that it earns 10% more by auctioning vehicles. Vehicles auctions attract customers interested in purchasing vehicles, while surplus sales attract customers not necessarily interested in the vehicles. By advertising to and looking at the right market, these auctions attract consumers willing to pay competitive prices.

The CEO Vehicle Management and Maintenance Team will continue reviewing this issue and propose recommendations by December 31, 1997.

1.6 Develop recommendations for improving the collection of sale proceeds.

As the CEO team reviewed other states, it found several instances of consolidated fleets and specially designated vehicle funds. Many states, such as Kentucky and Kansas, have a centralized agency that controls vehicles throughout their useful life, from purchase to resale. The advantage to such a system is that vehicles can be closely managed for the greatest efficiency.

During team discussions, team members agreed that vehicles should be closely examined and managed. In fact, team members were impressed with the consolidated efforts of other states. However, the CEO team agreed that it should not consider consolidation at this time. This decision was based on the fact that state vehicle records are inconclusive, and making such a decision would be based on speculation rather than fact.

The team agrees, however, that the next appropriate step would be to establish a mechanism to fund new vehicle purchases and the aforementioned life-cycle recommendations. Again, as other states have established a vehicle fund, the CEO team believes the State of Missouri may be able to better manage its vehicle resources and expenditures through a common method.

Currently, the Department of Transportation, Department of Conservation, Department of Natural Resources, and Highway Patrol sell their vehicles, and funnel the proceeds into their vehicle funds. Proceeds, then, are used to purchase new vehicles. These agencies utilize their vehicle revolving funds to complete this activity.

The CEO Vehicle Management and Maintenance team believes that a similar financial mechanism would provide other departments an incentive to manage their fleet for optimal performance. Currently, when a department turns its older vehicles into surplus, it receives nothing in return. As a result, departments face no consequences and have no reason to manage vehicles for optimum performance and use. If the receipt of vehicle sales were turned back to departments for the purchase of new vehicles, departments would have a reason to manage their fleet according to the life-cycle cost per mile method.

While the team wishes to make no recommendation at this time, it will study the sale of vehicles and investigate alternative methods for collecting and utilizing sale proceeds. The team will consider the establishment of revolving funds, the utilization of the Office of Administration's vehicle fund, and other mechanisms. The team will report its findings by December 31, 1997.

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Recommendation #2

Implement a standard vehicle tracking policy and method.

Rationale

Proper management of Missouri's vehicle fleets is essential to ensure efficient use of resources as well as reducing the impact on our environment. Information management systems which allow the tracking of vehicle use, performance, cost, etc. are critical components of proper management and all departments should enhance these capabilities whenever and wherever benefits will be realized.

Vehicle tracking provides managers, vehicle users, and vehicle maintainers at all levels with current as well as historical information which can be used in sizing fleets, selecting vehicle types, making decisions on repairs, improving scheduling, reducing costs, and improving efficiency. Information gained from tracking is also valuable in justifying new requirements, preparing and defending budgets, and effectively communicating fleet use to other agencies.

Currently, no one agency is responsible for developing broad policy concerning vehicle tracking. Departments, however, develop independent policies and procedures for vehicle tracking, tracking systems, and compliance with policy/procedures for vehicles under control of that department. Departments are also responsible for adequately funding vehicle tracking mechanisms.

Electronic Data Interchange (EDI) offers opportunities to share data and information between management information systems. Data interchange often results in new capabilities without the need to field new systems designed to meet every aspect of a new requirement. In vehicle tracking, maximum use of EDI concepts should be employed as a means to both reduce implementation costs and provide wide access to similar or common information. For example, inventory control, cost accounting, and maintenance management systems are normally separate and distinct, yet there are common data elements between the three. There would be advantages with a maintenance management system which could access and employ inventory information such as inventory number, vehicle identification number, description, date acquired, etc. Similarly, the maintenance

system could access and employ the cost accounting system for historical cost information as well as "Direct billing."

Sharing and exchanging data is simplified if standardized. MODOT has selected the American Trucking Association's Vehicle Maintenance Reporting Standards as their standard for maintenance component coding. They have also developed an equipment type list designed to define equipment functionality. Use of such standardization efforts is highly encouraged.

Implementation

2.1 Set standards for which data is to be collected.

As with any automated tracking system, standards should exist as to what information is gathered and in what format. The CEO team has considered data elements in the following categories: "Basic", "Inventory", "Vehicle Operation", and "Vehicle Maintenance". These items should be collected and used to properly manage department's vehicle fleets.

Basic Data Elements

1. Inventory or Property number - The unique number assigned to each vehicle or piece of equipment in the inventory system in use.
2. Vehicle Identification Number - The number stamped or engraved on the unit by the manufacturer.
3. License Number - The Missouri license plate number in use on a particular unit. License number assignments may change from one inventory number to another.
4. Title Number - Missouri title number for each vehicle.
5. Vehicle Type/Nomenclature - The standardized name for the vehicle associated with the inventory or property number.
6. Equipment Description - Clear description, including manufacturer, make, model, and year.
7. Physical Description - Physical characteristics, including length, width, height, weight, color, passenger capacity, and/or cargo capacity.

8. Primary and Secondary Operating Meter - Annotation of method (miles, hours, or other) used to measure how much the vehicle is operated, along with specification of which is primary and secondary.
9. Fuel Type - Annotation of the type of fuel the vehicle is capable of using.
10. Mounted Equipment - Identification of any equipment considered a permanent or near permanent part of the vehicle (plow, cinder spreader, dump bed, etc.).
11. Attached Equipment - Identification of special after market and easily removable equipment, such as radios, light-bars, winch, etc.
12. Assigned to - Annotation of the organization, location, function, office, or other identifier to which the vehicle is assigned for inventory purposes. This may change occasionally, and should not be confused with the tracking element that identifies day-to-day users of the vehicle.
13. Warranty - Annotation of basic manufacturer's warranty information, normally stated in years, and/or miles.

Inventory Management Data Elements

Reports are necessary for effective vehicle tracking. Periodic inventory summaries by responsibility center, major divisions, and department, as well as automatically generated reports are crucial.

1. Invoice Number - The number from the manufacturer's/supplier's delivery invoice.
2. Funding Source - Identification of the source of fund(s) used to acquire a particular vehicle.
3. Acquisition Source - Identification of source from which vehicle was purchased (i.e. dealer, surplus property, etc.).
4. User Funding Code - Annotation of account code associated with operation and maintenance of the vehicle. This may change if vehicle is reassigned to another organization.
5. Acquisition Date - Date the vehicle entered the inventory.
6. Disposal Date - Date the vehicle was removed from inventory.
7. "Sold To" Information - Provides a record of who the vehicle was sold to during the disposal process.

8. Date Assigned - Annotation of the date the vehicle was assigned to the current "assigned to" organization. This will change when vehicles are reassigned to other divisions or organizations.

Vehicle Operation Data Elements

Effective fleet management requires periodic reports plus ad hoc query capability allowing review and analysis of utilization in miles and/or hours, utilization in time, fuel and oil consumption, operating costs. Multiple formats which consolidate data elements are necessary to allow management review by department, division, program, individual vehicle, vehicle type, location, cost center, or other format.

1. Vehicle User - Identifies the day-to-day users of a vehicle for "non-pooled" vehicles. This could be an individual, a function, a site, a facility, or other suitable identifier and is normally subordinate to the inventory management "assigned to" organization.
2. Miles or Hours - Collects accumulation of miles and/or hours as vehicles are used. Should include a method from tracking miles/hours if a meter is replaced. Such information is essential to tracking aging, plan replacement, analyze utilization, analyze fuel and oil consumption, plus other relationships.
3. Age - Collects/tracks age of vehicle in years based on production year as well as age since last major rebuild.
4. Trip Reservation Information (for pooled vehicles) - Annotation of requestor, anticipated operator, phone number origin, destination, start date, end date, paying organization, paying organization's funding code.
5. Trip Execution Information (for pooled vehicles) - Annotation of actual operator, starting miles or hours, ending miles, paying organization, paying organization's funding code, vehicle type, vehicle number, origin, destination, start date, end date.
6. Trip Maintenance Information (for pooled vehicles) - Collection of fuel added/used, oil added, and emergency maintenance during trip.
7. Vehicle Scheduling - Primarily associated with pooled vehicle. Provides a calander for each vehicle for use in evaluating availability then scheduling vehicles for specific trips or projects.
8. Fuel Consumption - Includes units (e.g. gallons) purchased, type fuel, unit cost, mileage when purchased, and date purchased for vehicle.

9. Operator/Driver Qualification - Provides ready access to information on individual driver licensing and training.
10. Operator/Driver Performance - Collects information concerning accident history, citations (while operating state vehicles) and appropriate performance notations.

Vehicle Maintenance Data Elements

Periodic reports and ad hoc queries on maintenance history, upcoming preventative maintenance requirements, completion of preventative maintenance, average maintenance costs, as well as comparison reports for assessing reliability and/or maintainability of particular groups of vehicles.

1. Preventative Maintenance Requirements/Schedules - Identifies PM requirements for each vehicles in fleet and assists in scheduling.
2. Vehicle Warranty - Extension of the basic warranty information identified in the inventory portion mentioned earlier. This provides additional details relative to the individual vehicle, expiration date.
3. Component Warranties - Provides ability to track warranties associated with parts/components used during vehicle repairs and assists maintainers in taking advantage of component warranties, e.g., a starter with a 90 day warranty which fails after 75 days would be covered provided the maintainer was aware.
4. Work Order Preparation/Repair Documentation - Provides ability to process and document maintenance and repairs in a computerized format. Includes problem description, specific repairs performed, parts installed, parts costs, labor hours, labor costs, applicable warranties, and other elements each time repairs or maintenance is performed. This capability is used by maintenance shops as they perform work, and/or by vehicle managers who must enter maintenance information when performed through contract.
5. Oil Consumption - Collects oil consumers (oil changes not included) to allow identification of vehicles with high consumption and potential impending failure.
6. Mechanic Qualifications - Provides information on individual mechanics qualifications to assist shop foremen in scheduling maintenance/repairs.
7. Facility Information - Provides information on "in-house" facilities or local commercial activities. "In-house" information would include

location, area served, number of stalls, number of lifts, availability of fuel, special equipment availability, and special maintenance capabilities (e.g., bulldozer capable). Local activities information would include location, general capabilities, and limitations (e.g. no alignment capability or no body shop).

8. Repair Scheduling - Provides capability to review available resources and assign work.
9. Vehicle "Downtime" - Uses date/time entered and exited maintenance compared to total available time to calculate the amount of time vehicles are out of service. This includes capability to compare individual vehicles to an average for all vehicles of similar type and to compare the average of a particular type to other types.

2.2 Research, select, and implement an automated, computerized vehicle tracking mechanism.

As the CEO began its research, it surveyed each department on their vehicle fleets. Results of the survey were inconclusive, since many departments could not accurately tally the number of vehicles in use, the average cost or miles, or other useful statistics. The survey did note, however, that most departments did not have a clear, accurate, and sound method for collecting data and tracking vehicle cost or use trends.

The team examined other state's fleets, as well as private businesses, and found that an automated, computerized vehicle management system was standard. Such a system can track operational costs, maintenance costs, and

use. In turn, the system can generate management reports that can assist fleet managers in determining when to dispose of a vehicle, when problems are recurrent, and other decisions.

While the Department of Transportation has implemented a vehicle tracking system, the CEO team believes that the remaining departments also need to do the same. Rather than each department pursuing tracking mechanisms on their

Implementation Options

- Utilize DOT's current system.
- Adapt DOT's current system.
- Purchase "shrink-wrapped" vehicle management system.
- Purchase vehicle management system to integrate with SAMII.
- Develop vehicle management system with contract or internal programmers.

own, team members have agreed to choose a common method that could be shared.

The CEO team will continue reviewing vehicle tracking programs and recommend a specific program or step by December 31, 1997.

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Recommendation #3

Implement a standard vehicle assignment and use policy.

Rationale

A common practice among private sector vehicle fleet managers is to establish standard vehicle assignment and use policies. These policies determine which employees are allowed to drive a "company" car, and how the company vehicles are to be utilized. In most instances, governmental organizations also employ a variety of policies that regulate the use of public vehicles. Ultimately, these regulations ensure the effective and efficient use of vehicle resources.

Research conducted by the CEO team found the disparity between department's vehicle assignment and use policies to be significant. While section 301.260 of the Missouri Revised Statutes mandates that all state vehicles follow applicable traffic laws, there seems to be no regulation or standard regarding the assignment and use of state vehicles.

As a result, departments have implemented their own policies that have led, in some instances, to inappropriate vehicle assignments and improper use. As an example, there are instances where division directors, supervisors, and other management staff members have been issued vehicles based on seniority, rather than necessity of travel. Too, there exist several examples of employees utilizing vehicles inappropriately, such as driving them for personal purposes while in their official domicile. Additionally, there are alleged instances of employees traveling to drinking establishments or purchasing alcoholic beverages in a state vehicle. Such use of a state resource is inappropriate, and should not be tolerated.

Simply stated, organizations that manage their vehicles for cost effectiveness and efficiency establish and implement a series of guidelines that determines who is assigned a vehicle and who can utilize a pool vehicle.

***Assigned Vehicle:** An assigned vehicle is dedicated to a single job function/ person based on travel needs for a semi-permanent time period. As an example, a salesman who drives to different points of sale may be assigned a vehicle. However, if that person is promoted to sales manager, and no longer travels to sales locations, he may not retain the vehicle.*

***Pool Vehicle:** A pool vehicle is utilized by multiple individuals on a temporary basis. Pool vehicles may be assigned to a group of people/job functions, a building or section, or utilized by all employees. As an example, a company may have ten vehicles that are utilized on an as-needed basis for daily, low-mileage business trips. A sales manager may utilize the pool of vehicles, rather than have a vehicle assigned to him specifically.*

Implementation

3.1 Each department should develop and implement a specific vehicle assignment policy, based on the following guidelines.

There is a perception that the assignment of Missouri state vehicles has evolved over time to be more of a perk than a work tool. As a result, departments have, at times, assigned vehicles to individuals whose job function does not require an assigned vehicle.

To correct this problem, departments should individually examine their vehicle assignment policies. By doing so, departments can free up under-utilized "assigned" vehicles, freeing their use up for the motor pool. With more vehicles available in the motor pool, employees will have less need to find alternative transportation or take their personal vehicle on state business trips.

I. Model Vehicle Assignment Policy

A. Permanently assigned vehicles:

1. In general vehicles should not be assigned, except to appropriate individuals or for certain conditions.
2. Assigned passenger vehicles should travel more than 15,000 miles per year while conducting official state business.
3. A vehicle may be assigned to job functions/employees requiring specially equipped vehicles, (e.g. mounted radio equipment, emergency response, or other programmatic needs).

4. A vehicle may be assigned to job functions/employees that require frequent transportation in the performance of duties (e.g. mail and delivery vehicles, etc.)
5. Permanently assigned vehicles are not to be used for commuting purposes, unless that employee works from his/her home, is on a 24-hour on-call status, or needs to operate a specially equipped vehicle.

B. Pool vehicles:

1. Pool vehicles are for the general use of department/state employees.
2. Pool vehicles should average at least 15,000 miles per year. If the average is less the pool may need to be reduced accordingly.
3. Pool vehicles should be used when available and appropriate, as opposed to a personal or rental vehicle. Personal and rental vehicles can be used for certain occasions at the department's discretion. (*See Recommendation #6.*)

Departments should develop and implement such a policy by March 31, 1998. The CEO Vehicle Management and Maintenance Team will monitor departments' progress in this area and assist departments where necessary.

3.2 Each department should develop and implement a specific vehicle use policy, based on the following guidelines.

State vehicles are purchased for the sole purpose of providing travel for those conducting the state's business. The vehicles are not purchased for those individuals driving a state vehicle to grocery shop, drop their children off at school, or run personal errands. Thus, the appropriate use of a state vehicle should be considered by each department, and more specifically, by each driver.

Furthermore, state vehicles are highly recognizable. As state vehicles travel Missouri's highways and roads, the public notices the operation and users of the vehicle paid for by their tax dollars. Drivers of state vehicles are scrutinized for their driving manners and perceived or actual misuse of the vehicle. To address these issues, departments should develop and implement a standard use policy.

I. Model Vehicle Use Policy

- A. State vehicles are to be operated only by users qualified to operate the vehicle for the performance of official state business. Only authorized passengers are permitted to ride in state owned vehicles. Authorized passengers are limited to: state employees, other persons participating in state programs or functions, or individuals assisting disabled employees.

- B. Liability to other persons (bodily injury and property damage) due to employee negligence in the operation of a state vehicle will be covered by the state provided the employee was operating the vehicle while conducting official business.
- C. Personal property in state vehicles is not insured for loss or damage by the state. Coverage for these items may be provided by the employee's personal insurance.
- D. Departments will review, at least annually, the operator's license of employees who operate state vehicles. The review should consider whether an employee has a valid operator's license or if the license has been suspended/revoked. Departments should deny operational access to employees not possessing a valid license. Additional factors which will be evaluated to determine whether to issue a state owned vehicle shall include:
 - 1. Incurring a conviction of driving while intoxicated or driving under the influence within the last three years
 - 2. Convictions of an employee on moving violations including, but not limited to careless and imprudent driving, failure to yield, driving too close and speeding;
 - 3. Operation of state owned vehicle in a careless manner or in violation of department/state policy.
 - 4. It is the responsibility of the employee to immediately notify their supervisor of any infraction that may result in suspension or revocation of driving privileges.
- E. All employees must exercise the highest degree of prudence in operating state-owned vehicles or private vehicles on official business. The following are the responsibility of the employee:
 - 1. Safety restraints shall be use by all occupants.
 - 2. Established speed limits and all traffic regulations will be followed.
 - 3. The use of alcoholic beverages or other judgement impairing drugs while operating a state vehicle is prohibited.
 - 4. Accidents will be investigated to determine preventability on the part of the employee. Employees found to have operated a vehicle in a careless manner or in violation of department/state policy and procedures will be subject to disciplinary action.
- F. State owned vehicles are highly visible to the public and their use scrutinized. Thus, poor driving manners and inappropriate use reflect on all state employees. The vehicle operator must make certain state owned vehicles are used in a prudent, courteous manner. Furthermore,

employees should not smoke in state vehicles or utilize the vehicle for personal business, such as travel to entertainment facilities.

- G. Animals are not allowed in state vehicles unless required by an employee's job or a passenger's disability.
- H. State vehicles should be utilized for state business only. It is permissible, however, to use the vehicle for travel to meals or other necessities while on state business.
- I. To the greatest extent possible, state owned vehicles should not be used for out-of-state travel, unless deemed to be less expensive than other methods. Use of state owned vehicle for out-of-state travel requires supervisor approval.
- J. State employees operating state owned vehicles will abide by state travel regulations.

Departments should develop and implement such a policy by March 31, 1998. The CEO Vehicle Management and Maintenance Team will monitor departments' progress in this area and assist departments where necessary.

3.3 Review departmental assignment and use policies on an annual basis.

To ensure implementation of vehicle assignment and use policies, the CEO team will review departmental policies on an annual basis. The CEO plans to monitor implementation and assist departments as issues arise. Since the CEO team is comprised of fleet managers from each department, annual compliance reviews will assist departments in learning from one another. By reviewing how each department handles specific assignment and use issues, other departments can adapt and improve their own policies.

The CEO Vehicle Management and Maintenance Team will review such policies at the beginning of each fiscal year, beginning July 1, 1998.

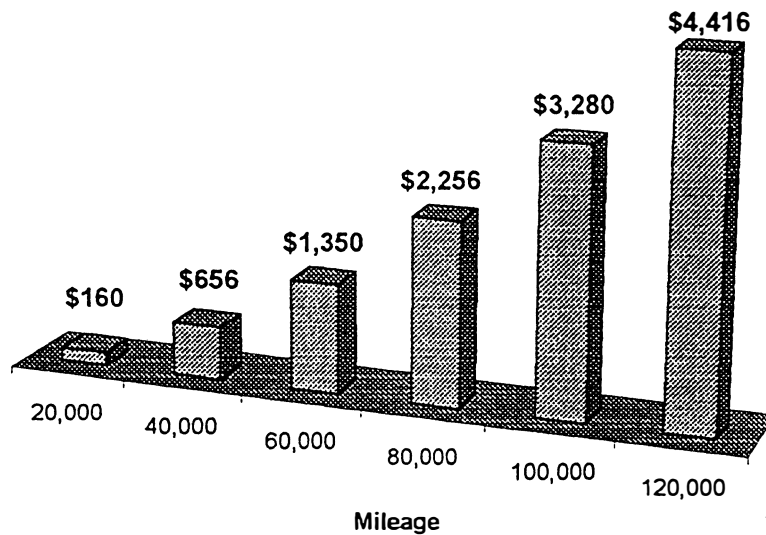
Recommendation #4

Develop and implement a comprehensive maintenance program for all state vehicles.

Rationale

Fleet research indicates that vehicle maintenance is one of the highest vehicle costs. In fact, the costs of replacing tires and brakes, as well as preventative maintenance and repairs are 14% of total vehicle costs. This research also shows that as vehicles increase in age and mileage, so does the vehicle's maintenance costs.

Cumulative Maintenance Cost over Life of Vehicle



To address the rising cost of vehicle maintenance, many fleet administrators have implemented comprehensive preventative maintenance programs that address problems before they become too costly. In fact, companies like GE Capital Fleet Services, Enterprise Leasing, Southwestern Bell, GTE, and Hertz all have comprehensive programs which detail a vehicle's required frequency of each maintenance service. These programs ensure consistency of care across all vehicles.

Despite the increasing popularity of preventative maintenance programs, state governments have not readily adopted the practice. Many of Missouri state government's agencies complete some preventative maintenance on their vehicles. Yet not all necessary services are completed, while other unrequired, non-beneficial services are completed.

Another common practice among fleet administrators is the implementation of a quality maintenance management program. Such a program tracks vehicle costs, identifying costs that can be avoided. As an example, fleets vehicles often do not take full advantage of manufacturer's warranties. Too, many fleet vehicles have repairs completed just prior to being replaced. Again, state governments do not generally have a comprehensive maintenance management program in place.

As the team studied Missouri's vehicle operations and compared them to other states and business, it realized that an improved maintenance program was the foundation of a solid vehicle program. As a result, the team compiled a list of action steps to be taken immediately.

Implementation

4.1 Set at state standard that each vehicle will receive "Service Level I" preventative maintenance every 5,000 miles (3,000 for heavy-use vehicles).

The manufacturer' of the fleet vehicles purchased by the State of Missouri often suggest that certain services be performed every 7,500 miles. Those services include: oil and filter changes, belt checks, and tire and joint inspections.

Previously, the main preventative service performed by agencies was an oil change and filter replacement. Agencies attempted to complete this service at 3,000 miles, yet not all vehicles met that standard. Other services have not been performed on a regular basis by the state.

By setting the service level at 5,000 miles, the state can establish a standard for all vehicles that fall within the manufacturer's guidelines. Not only does this standard set a goal and expectation for service, but it also offers several benefits, including: reduced shop time per vehicle and cost savings due to fewer oil and

filter changes. Projected savings from this standard are \$300,000 per year. The calculation for this projected savings is: (# of vehicles)*(# of fewer oil changes per year)*(cost per oil change).

$$(7,500)*(2)*(\$20.00) = \$300,000.00$$

Vehicles that are considered "heavy-use", such as highway patrol vehicles, should receive preventative maintenance earlier. This recommendation should be implemented for vehicles who's manufacturer recommends such standards. Caution must be used when implementing this policy, so as not to violate the manufacturer's recommended maintenance, thus voiding the warranty. (See *Appendix D - "Preventative Maintenance Schedule"*.)

The CEO Vehicle Management and Maintenance Team recommends that this policy be adopted immediately. The team will monitor departments' preventative maintenance policies beginning October 1, 1997.

4.2 Set at state standard that each vehicle will receive "Service Level II" preventative maintenance every 25,000 miles.

Vehicle manufacturers suggest that certain service be performed at higher mileages, such as changing air and fuel filters, changing transmission fluids, and changing spark plugs. As with oil changes, the recommended mileage ranges vary from manufacturer to manufacturer. However, state government often performs these services on an irregular basis. Many times, the services are provided too early. On other vehicles, the service is not performed at all.

It's the CEO's belief that by regularly performing certain services at 25,000, that overall vehicle maintenance costs will be reduced. (See *Appendix D - "Preventative Maintenance Schedule"*.)

The CEO Vehicle Management and Maintenance Team recommends that this policy be adopted immediately. The team will monitor departments' preventative maintenance policies beginning October 1, 1997.

4.3 Set a state standard that each vehicle will receive other preventative maintenance services on an as-needed-basis.

Many fleets have excessive preventative maintenance programs. These programs provide some services too frequently and thus, incur needless expenses.

As an example, tire rotations are completed at a cost of \$25 for a set of tires. Completed every 5,000 miles, this service would add an additional 5,000 miles

over the life of the set of tires. If the tires last an average of 50,000 miles, the rotation would cost \$250. As a result, the tires would last to 55,000 miles. However, a new set of tires could be purchased at 50,000 for less than \$200. Not rotating the tires would save money.

Maintenance should be examined on a cost/benefit basis to determine whether the service should be offered.

The CEO Vehicle Management and Maintenance Team recommends that this policy be adopted immediately. The team will monitor departments preventative maintenance policies beginning October 1, 1997.

4.4 Examine the vehicle fleet industry practice of "cost-avoidance techniques" and develop recommendations for state implementation.

Private fleet managers utilize a variety of techniques to reduce the cost of maintenance and repair. The techniques focus on avoiding costs where appropriate. For instance, utilizing the warranty for repair work, as opposed to repairing it in-house; or not repairing a vehicle that is scheduled to be replaced in the near future.

To realize potential savings, state agencies should follow these industry practices:

- Negotiate repair costs
- Identify repairs eligible for warranty work
- Identify repairs to re-called vehicles.
- Identify less expensive repair alternatives.
- Monitor repairs for need/validity
- Identify vehicles that are scheduled to be replaced

The team will research various options and report its findings by December 31, 1997.

4.5 Pursue post-warranty repairs with the manufacturers.

In discussions with private fleet managers, the CEO team found that many private fleets negotiate warranty repairs with the manufacturer. As an example, a company may purchase 100 model-year 1997 Ford Taurus's. If the company finds similar problems in multiple vehicles, they will work with the manufacturer on repairs. More specifically, the company may find that 10 of the 100 vehicles are having starter problems. By noting these problems and

needed repairs, the company can notify the manufacturer and ask for replacement or refunds.

This practice is commonplace among large fleets, such as Southwestern Bell's and Enterprise leasing. This practice should be implemented across Missouri's vehicle fleets.

4.6 Identify the best vendor for the job, based on pricing, capabilities, location, warranty coverages, and performance rating.

As the CEO team researched maintenance of state vehicles, it found that the state may not always utilize the most appropriate, efficient, and effective means for repairing or servicing a vehicle. Generally, departments utilize the Office of Administration garage for maintenance and repairs. While work completed at the OA garage is typically well done, the team suggests that its work be examined and compared to external vendors.

Research suggests that costs can be reduced through a variety of methods. For instance, mobile vendors can provide service on-site, thus reducing costs associated with transporting vehicles to repair facilities. Another potential improvement could be the use of pre-approved, contracted vendors in out-state locations, so that vehicles did not have to return to Jefferson City for maintenance. Finally, several businesses have implemented "call centers", where private vendor maintenance charges are reviewed by licensed mechanics working for the state. This method monitors private vendor charges to ensure that only necessary work is completed.

To address these issues, departments should continuously identify vendors who can provide the needed service at the best cost. The CEO Vehicle Management and Maintenance Team will continue to research and review maintenance options, providing additional information by March 31, 1998.

4.7 Implement a maintenance tracking mechanism.

To achieve cost reductions in the area of maintenance and repair, many business fleets have closely tracked vehicles and repairs. By tracking the two items, fleets can make management decisions based on fact, rather than assumption. As a part of the vehicle tracking system, the CEO team recommends that a maintenance tracking system be implemented.

The CEO Vehicle Management and Maintenance Team will recommend a tracking program for by December 31, 1997.

Recommendation #5

Implement a fuel program, utilizing an electronic fuel card, to be used by all state vehicle fleets.

Rationale

Next to depreciation, fuel is the largest cost associated with vehicle expenditures. According to industry statistics, 16% of fleet costs are fuel related (*See Appendix B - "Average Fleet Vehicle Costs"*). In attempts to reduce these expenditures, many governmental fleet managers focused on improving fuel economy. More recently though, fleet managers have examined fuel costs for inappropriate non-fuel purchases, unauthorized fuel purchases, and premium fuel purchases.

In an examination of both public and private vehicle fleets, the CEO team found that organizations can reduce their fuel costs by 10 - 15% by identifying and eliminating inappropriate purchases.⁶ If applied to the State of Missouri, this practice could save \$750,000 annually.⁷

Those fleets that have realized such savings have done so by implementing a fuel policy and implementing it through the fuel purchasing card. Since all fuel is purchased through the card, fleet managers have found that purchases can be tracked and examined. In turn, inappropriate purchases can be addressed.

Keys to Lowering Fuel Costs:

- Reduce or eliminate premium and full-service fuel purchases.
- Do not use high-octane fuels. (*Studies have demonstrated little or no value associated with the added cost.*)
- Eliminate unauthorized purchases (*convenience purchases of soda, coffee, candy, etc.*)
- Establish a fuel policy
- Provide a secure instrument that tracks fuel costs

⁶ O'Donnell, Michael. Fleet Presentation, GE Capital Leasing.

⁷ Based on 10% of \$7,200,000 in actual FY 1996 fuel purchases for all agencies, excluding the Department of Transportation. The Department of Transportation spends an additional \$7 million each year in vehicle fuel.

Implementation

5.1 Develop and send out a "request for proposals" for the fuel card.

The Office of Administration, Division of Purchasing had been considering a new fuel card since early 1996. Consideration had been given to the project previously since many fuel stations could no longer accept the state's existing fuel card, which required an impression of the metal card plate.

As the CEO team discussed this option, it explored the opportunity to improve the fuel card with purchasing. In turn, purchasing developed the RFP and issued the proposal on June 16, 1997. Proposals were due back on July 17th. Purchasing foresees that the vendor will be selected by early August.

Completed. The Office of Administration, Division of Purchasing will select a vendor in September or October of 1997.

5.2 Coordinate the implementation of the fuel cards with the issuance of new Missouri license plates.

Historically, state fuel cards have been issued to single vehicles, rather than individuals. In doing so, the fuel card has had the vehicle's license plate number and other information embossed on the card. This method provides accountability and ensures that fuel purchased is for a specific state vehicle.

As new fuel cards are printed by the selected vendor, the CEO recommends continuing this practice. In order to do this at a minimal cost, the CEO recommends that printing of the cards be coordinated with the issuance of new license plates by the Missouri Department of Revenue. By doing so, it will prevent the state from having to pay the fuel card vendor extra funds for the re-issuance and re-printing of new cards.

The CEO has been working with the Department of Revenue to develop the number scheme and timeline for plate issuance. In turn, departments should receive new plates and cards for their vehicles at the same time. Both the license plates and fuel cards are scheduled to be issued in late 1997 or early 1998.

5.3 Implement the following fuel policy.

Both private and public fleet managers have found that a fuel policy is a vital component in the efficient management of vehicles. The policy serves as a guideline to employees and other individuals fueling state vehicles, thus combating waste at the first line of defense, the point of sale. The following items should be included in each department's fuel policy:

- The fuel card is used for the purchase of fuel for state vehicles or gasoline/diesel motors only. There may be exceptions when the card is used to purchase emergency vehicle supplies (i.e. windshield wipers).
- The fuel card shall not be used for the purchase of fuel for employee vehicles or other non-state owned gasoline/diesel motors.
- Premium fuels should not be purchased, unless the vehicle or motor is a high performance motor requiring a higher octane.
- Utilize a 10% ethanol blend if: (a) the price is no greater than 5% more than regular gasoline; and (b) the vehicle is capable of running on such fuel. If the vehicle is an alternative fuel vehicle (i.e. E-85 fuel), the alternative fuel should be used when and where available. *Departments should give consideration to each vehicle's manufacturer's recommendations regarding fuel type prior to implementation.*
- No personal items, such as beverages, food, or tobacco products shall be purchased on the fuel card. The card is strictly to be used for the procurement of fuel for the vehicle or other designated gasoline/diesel engine and other vehicle products such as oil.

5.4 Track fuel usage per vehicle or engine utilizing vendor generated reports.

Fuel cards programs are implemented with two main reasons: (1) purchasing convenience of "plastic" over cash, and (2) to track fuel usage and purchases. For several years, fleets have enjoyed the convenience of purchasing with the fuel card, yet few fleets have used the program to track fuel costs and usage.

As a vendor is chosen through the procurement process, state agencies should utilize the vendor generated fuel reports to manage purchases according to the guidelines established by the fuel policy.

Fleet managers should closely examine the fuel reports for inappropriate activities and purchases. As incidences of non-fuel or non-authorized purchases are discovered, disciplinary actions should be taken. Additionally, incidences of premium fuel purchases should be noted, and the driver/purchaser educated on the appropriate policy or guideline.

.....

Recommendation #6

Standardize the decision process when selecting vehicle travel methods (personal, state, or rental).

Rationale

An examination of fleet industry trends indicates that many organizations are contemplating the costs and advantages of having vehicle fleets. Some literature suggests that many businesses have stopped purchasing vehicles, and require employees to drive their own vehicles. On the other hand, some businesses do not allow employees to drive their own vehicles, requiring that they drive a fleet vehicle instead.

States and other governmental organizations have also been examining whether to own a fleet, lease vehicles, or to allow personal vehicle use. Many states have centralized vehicle fleets, which rent vehicles to state agencies.⁸ Florida, for example, runs a centralized fleet through general services. Still, audits of such enterprises finds that providing state vehicles is not always the most cost-effective.⁹ While industry results are inconclusive, the cost of each to Missouri state government provides direction. Simply, based on a cost per mile and certain mileage ranges, each option has a role in providing transportation.

⁸ Kling, Barry and Turman, Jill, "Review of the Division of Motor Pool - Department of Management Services." Governmental Operations Committee. State of Florida. December 23, 1993.

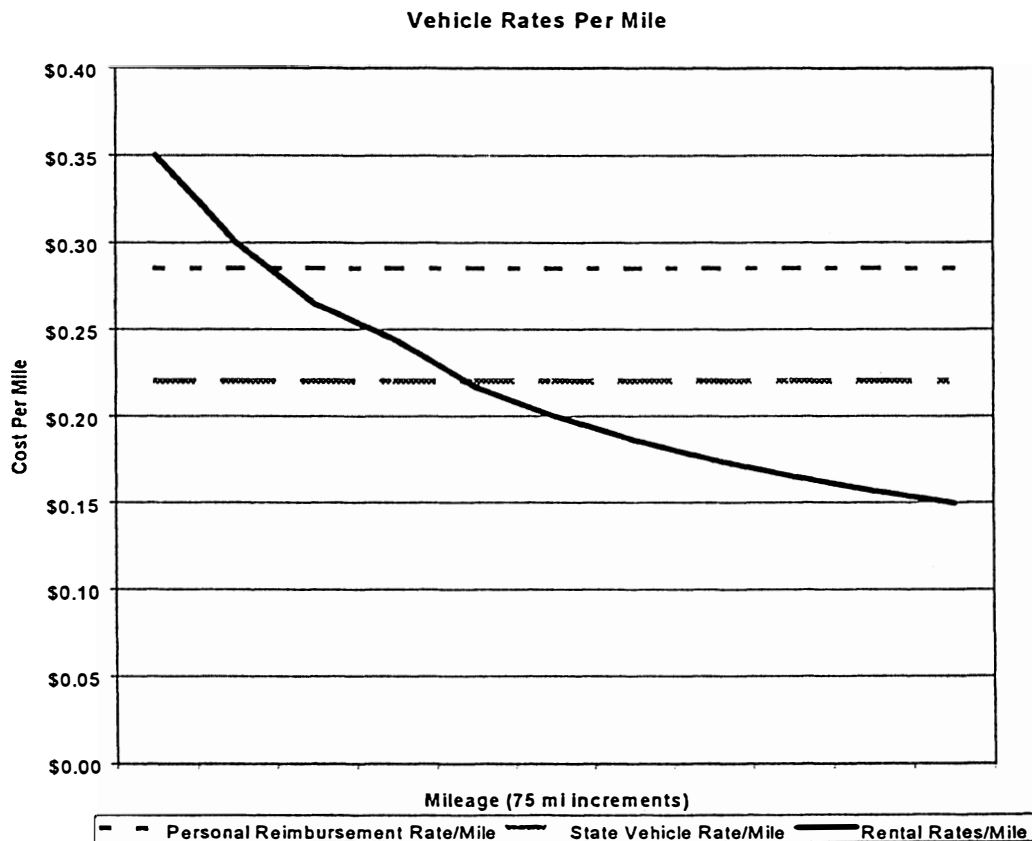
⁹ Peer Committee, "A Performance Audit of State-Owned Vehicle Management." Mississippi Legislature. December 14, 1993.

Implementation

6.1 Regularly analyze the cost of vehicle travel options on the per-mile basis.

Due to a lack of tracking methods and data collection, state agencies have not regularly compared the cost of traveling in a state vehicle or a personal vehicle. Likewise, these two options have seldomly been compared to private rental vehicles. The per-mile cost should be considered for vehicles and travel methods based on the comparison.

Below is an example of state vehicles, personal vehicles, and rental vehicles. As can be seen, the cost per mile is stagnant with state vehicles and personal vehicles. In theory then, it may make more sense to rent a vehicle at times, than utilize a state or personal vehicle.



6.2 Utilize state contracted rental vehicles on certain mileage one and two day trips.

Current contracted prices for rental vehicles were examined and compared to the cost of reimbursing employees for the use of a personal vehicle. The comparison showed that for one-day trips less than 150 miles, a personal vehicle was more cost effective than a rental vehicle. One-day trips over 150 miles showed significant savings when a rental vehicle was used. This range covers a bulk of state employee's trips, considering the number of employees traveling on one-day trips to St. Louis and Kansas City.

The example below is a comparison of actual costs.

Round Trip from Jefferson City	Miles	Reimburs ement Rate @ \$0.285	Midsize 1 Day Rental	Gas @ 20 MPG @ \$1.10 per gallon	Cost for 1 Day Rental	Savings
St. Louis	256	\$72.96	\$40.00	\$14.08	\$54.08	\$18.88
Kansas City	292	\$83.22	\$40.00	\$16.06	\$56.06	\$27.16
Springfield	282	\$80.37	\$40.00	\$15.51	\$55.51	\$24.86
St. Joseph	396	\$112.86	\$40.00	\$21.78	\$61.78	\$51.08
Hannibal	222	\$63.27	\$40.00	\$12.21	\$52.21	\$11.06
Sedalia	120	\$34.20	\$40.00	\$6.60	\$46.60	(\$12.40)
Kirksville	256	\$72.96	\$40.00	\$14.08	\$54.08	\$18.88
Sikeston	474	\$135.09	\$40.00	\$26.07	\$66.07	\$69.02
Maryville	484	\$137.94	\$40.00	\$26.62	\$66.62	\$71.32
Cape Girardeau	418	\$119.13	\$40.00	\$22.99	\$62.99	\$56.14
Lebanon	178	\$50.73	\$40.00	\$9.79	\$49.79	\$0.94
Rolla	128	\$36.48	\$40.00	\$7.04	\$47.04	(\$10.56)
Joplin	426	\$121.41	\$40.00	\$23.43	\$63.43	\$57.98

While it saves money to rent a vehicle for a one-day trip traveling over 150 miles, the mileage requirement is greater for a two-day trip. Due to the daily rental cost, the optimal mileage range is 275 miles.

Round Trip from Jefferson City	Miles	Reimburse ment Rate @ \$0.285	Midsize 2 Day Rental	Gas @ 20 MPG @ \$1.10 per gallon	Cost for 2 Day Rental	Savings
St. Louis	256	\$72.96	\$59.98	\$14.08	\$74.06	(\$1.10)
Kansas City	292	\$83.22	\$59.98	\$16.06	\$76.04	\$7.18
Springfield	282	\$80.37	\$59.98	\$15.51	\$75.49	\$4.88
St. Joseph	396	\$112.86	\$59.98	\$21.78	\$81.76	\$31.10
Hannibal	222	\$63.27	\$59.98	\$12.21	\$72.19	(\$8.92)
Sedalia	120	\$34.20	\$59.98	\$6.60	\$66.58	(\$32.38)
Kirksville	256	\$72.96	\$59.98	\$14.08	\$74.06	(\$1.10)
Sikeston	474	\$135.09	\$59.98	\$26.07	\$86.05	\$49.04
Maryville	484	\$137.94	\$59.98	\$26.62	\$86.60	\$51.34
Cape Girardeau	418	\$119.13	\$59.98	\$22.99	\$82.97	\$36.16
Lebanon	178	\$50.73	\$59.98	\$9.79	\$69.77	(\$19.04)
Rolla	128	\$36.48	\$59.98	\$7.04	\$67.02	(\$30.54)
Joplin	426	\$121.41	\$59.98	\$23.43	\$83.41	\$38.00

6.3 Utilize the following rental contracts and mileage guidelines when choosing travel methods.

To assist state employees in selecting the appropriate travel method, a chart of rental contracts and accounts has been established. Likewise, a mileage guideline has been established. The chart is based on mileage and actual cost.

One day trip, Mid-Sized vehicle.

Mileage	Personal Reimbursement Rate/Mile	State Vehicle Rate/Mile	Rental Rates/Mile (Compact, Sub- Compact, & Mid- Size Average)
100	\$0.29	\$0.22	\$0.40
120	\$0.29	\$0.22	\$0.34
140	\$0.29	\$0.22	\$0.30
160	\$0.29	\$0.22	\$0.28
180	\$0.29	\$0.22	\$0.24
200	\$0.29	\$0.22	\$0.23
220	\$0.29	\$0.22	\$0.21
240	\$0.29	\$0.22	\$0.20
260	\$0.29	\$0.22	\$0.18
280	\$0.29	\$0.22	\$0.18
300	\$0.29	\$0.22	\$0.17

Two day trip, Mid-Sized vehicle.

Mileage	Personal Reimbursement Rate/Mile	State Vehicle Rate/Mile	Rental Rates/Mile (Compact, Sub-Compact, & Mid-Size Average)
100	\$0.29	\$0.22	\$0.70
120	\$0.29	\$0.22	\$0.58
140	\$0.29	\$0.22	\$0.50
160	\$0.29	\$0.22	\$0.44
180	\$0.29	\$0.22	\$0.39
200	\$0.29	\$0.22	\$0.35
220	\$0.29	\$0.22	\$0.32
240	\$0.29	\$0.22	\$0.29
260	\$0.29	\$0.22	\$0.27
280	\$0.29	\$0.22	\$0.25
300	\$0.29	\$0.22	\$0.23

<u>Rental Company</u>	<u>Contract #/Recap</u>	<u>\$/mid-sized/day</u>
National	5200463	\$40.00 + gas
Enterprise		\$40.00 + gas
Hertz	068300	\$50.00 + gas
Thrifty	001-0173448	\$40.00 + gas
Budget	876-00-08324	\$41.00 + gas

Appendix A

State Vehicle Fleet's Value

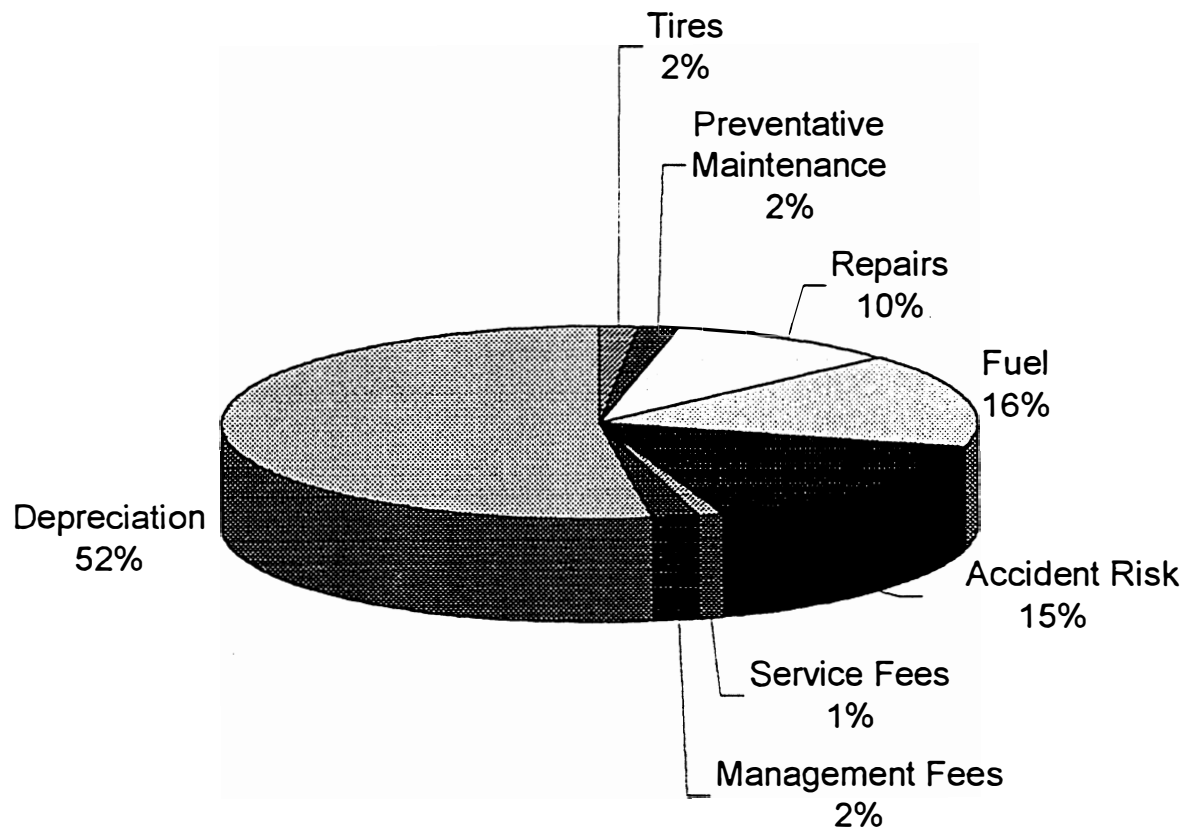
Type	# of Vehicles*	Avg. Cost of Vehicle**	Extended Cost
Sub-Compact	5	\$10,059.00	\$50,295.00
Compact	208	\$10,059.00	\$2,092,272.00
Mid-Sized	1279	\$11,224.00	\$14,355,496.00
Full-Sized	1484	\$13,624.00	\$20,218,016.00
Full-Sized Passenger Van	354	\$12,437.00	\$4,402,698.00
Mini Van	375	\$14,213.00	\$5,329,875.00
Cargo Van	186	\$14,026.00	\$2,608,836.00
Pickup <4500 GVW	643	\$8,724.00	\$5,609,532.00
Light Truck - 2WD <8600 GVW	843	\$10,712.00	\$9,030,216.00
Light Truck - 4WD <8600 GVW	640	\$14,202.00	\$9,089,280.00
Carryalls	132	\$18,823.00	\$2,484,636.00
Sport Utility	378	\$16,435.00	\$6,212,430.00
Totals	6527		\$81,483,582.00

* excludes vehicles operated by Missouri colleges and universities and other political subdivisions which have official state plates.

** based on the lowest purchase price reported by state agencies. Thus, the extended cost is underestimated.

Appendix B

Average Fleet Vehicle Costs



Appendix C

High Mileage Table

Example: 1993 Ford Taurus

<i>Mileage</i>	<i>Deduct Value</i>
55,000 - 60,000	\$0.00
60,001 - 65,000	\$200.00
65,001 - 70,000	\$400.00
70,001 - 75,000	\$600.00
75,001 - 80,000	\$800.00
80,001 - 90,000	\$1,075.00
90,001- 100,000	\$1,425.00
100,001 - 115,000	\$1,875.00

Example: 1994 Ford Taurus

<i>Mileage</i>	<i>Deduct Value</i>
55,000 - 60,000	\$500.00
60,001 - 65,000	\$700.00
65,001 - 70,000	\$900.00
70,001 - 75,000	\$1,075.00
80,001 - 90,000	\$1,525.00
90,001- 100,000	\$1,875.00
100,001 - 115,000	\$2,300.00

source: April 1997 National Automobile Dealers Association Guidebook

Appendix D

Preventative Maintenance Schedule

Day to Day:

1. Walk around the vehicle each day visually checking for body damage, lost/stolen license tags, tire condition and air pressures.
2. Check all under hood fluid levels at least every other fuel fill up.

Service Level I (5,000 miles or 3,000 miles for heavy-use vehicles):

1. The engine oil is to be drained from the crankcase and replaced with new quality energy conserving motor oil.
2. The oil filter is to be replaced with a new one that meets or exceeds the manufacturer's recommendations.
3. The air filter is to be cleaned or replaced.
4. The upper/lower ball joints and steering linkage is to be lubricated and inspected.
5. The tires are to be checked for proper air pressure and rotated according to the pattern set forth in the vehicle owners manual.
6. A visual inspection for leakage, deterioration, or abnormal wear is to be made on the following components; drive belt(s), radiator and heater hoses, shock absorbers and/or McPherson struts, exhaust system, windshield wipers.
7. A check of all fluid levels, including but not limited to radiator, power steering, brake, transmission and windshield washer. Levels are to be topped off where necessary.
8. All running and turning lights will be checked and corrected if needed.

Service Level II (25,000 miles or 18,000 miles for heavy-use vehicles):

1. All items contained in Service Level I.
2. A "wheels off" inspection of all four brakes and components.
3. Rear wheel bearings are to be cleaned, inspected and repacked with a quality energy conserving grease.
4. Replace the air filter, fuel filter, PCV valve, and spark plugs. The parts used are to meet or exceed the manufacturer's recommendations.
5. Change transmission fluid and filter.



Implementation Step Timeline.

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CEO - Vehicle Management and Maintenance Team Recommendations

9/1/97

Rec. #	Recommendation	Accountable Party	Stakeholders	Start Date	End Date	Cost	Savings	Measure of Success	Status
1	Vehicle Life-Cycle								
1.1	Continue Bulk Purchasing of Vehicles	Larry Smith	Department Fleet Managers	1-Sep	None	Unknown	Unknown	Low purchase prices	
1.2	Continue purchasing vehicles with good resale or remarketing value.	Larry Smith & department buyers	Department Fleet Managers	1-Sep	None	Unknown	Unknown	Resale values.	
1.3	Implement a vehicle replacement cycle that focuses on cost reduction and optimal vehicle use and efficiency.	Department Fleet Managers, and Budget Officers, Legislature	Department Fleet Managers	1-Sep	1-Jul-98	Unknown	Unknown	FY 1999 budget requests for vehicles will show need, based on replacement criteria and life-cycle costs.	
1.4	Develop and implement a vehicle tracking system which incorporates the life-cycle cost information and analysis.	Department Fleet Managers and CEO team.	Department Fleet Managers	1-Sep	12/31/97	Unknown	Unknown	Implemented system.	
1.5	Develop recommendations for improving the resale of state vehicles.	CEO Team	CEO Sponsors	1-Sep	31-Dec-97	Unknown	Unknown	Report to CEO	
2	Tracking Policy								
2.1	Set standards to be collected	CEO Team	Department Fleet Managers	1-Sep	9/30/97	0	None	Completed list of items to be collected.	Completed.
2.1.1	Adapt departments' inventory and other systems to reflect tracking policy.	Department Fleet Managers	Department Fleet Managers	1-Sep	9/30/97	Unknown	None	Updated inventories.	
2.2	Research, select, and implement an automated, computerized vehicle tracking mechanism.	CEO Team	Department Fleet Managers	1-Sep	12/31/97	Unknown	Unknown	Implemented system.	

CEO - Vehicle Management and Maintenance Team Recommendations

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3	Vehicle Assignment and Use								
3.1	Each department should develop and implement a specific vehicle assignment policy.	Department Fleet Managers	Department Fleet Managers	9/1/97	3/31/98	Unknown	Unknown	Departments have policies, CEO team reviews.	
3.2	Each department should develop and implement a specific vehicle use policy.	Department Fleet Managers	Department Fleet Managers	9/1/97	3/31/98	Unknown	Unknown	Departments have policies, CEO team reviews.	
3.3	Review departmental assignment and use policies on an annual basis.	CEO Team	Department Fleet Managers	9/1/97	7/1/98	Unknown	Unknown	CEO Team review completed.	
4	Vehicle Maintenance								
4.1	Set a state standard that each vehicle will receive "Service Level I" preventative maintenance every 5,000 miles (3,000 for heavy-use vehicles).	Department Fleet Managers and CEO Team	Department Fleet Managers	9/1/97	None	Unknown	\$ 300,000.00	Policy implemented, CEO team review.	
4.2	Set a state standard that each vehicle will receive "Service Level II" preventative maintenance every 25,000 miles.	Department Fleet Managers and CEO Team	Department Fleet Managers	9/1/97	None	Unknown	Unknown	Policy implemented, CEO team review.	
4.3	Set a state standard that each vehicle will receive other preventative maintenance services on an as-needed basis.	Department Fleet Managers and CEO Team	Department Fleet Managers	9/1/97	None	Unknown	Unknown	Policy implemented, CEO team review.	
4.4	Examine the vehicle fleet industry practice of "cost-avoidance techniques" and develop recommendations for state implementation.	CEO Team	CEO Sponsors	9/1/97	12/31/97	Unknown	Unknown	Report to CEO Sponsors.	
4.5	Pursue post-warranty repairs with manufacturers.	Department Fleet Managers	Department Fleet Managers	9/1/97	None	Unknown	Unknown	Identified and recovered savings.	
4.6	Identify the best vendor for the job, based on pricing, capabilities, location, warranty coverages, and performance rating.	Larry Smith and Department Fleet Managers	Department Fleet Managers	9/1/97	3/31/98	Unknown	Unknown	Report to CEO Sponsors on costs of internal vs. external maintenance.	

CEO - Vehicle Management and Maintenance Team Recommendations

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4.7	Implement a maintenance tracking mechanism.	CEO Team	Department Fleet Managers	9/1/97	31-Dec	Unknown	Unknown	Implemented system.	
5	Fuel Program & Policy								
5.1	Develop and send out a "request for proposals" for the fuel card.	OA Purchasing	Department Fleet Managers	7/1/97	10/1/97	Unknown	\$ 750,000.00	Card in place, savings identified.	Proposals being reviewed.
5.2	Coordinate the implementation of the fuel cards with the issuance of new Missouri license plates.	CEO Team and Department of Revenue	Department Fleet Managers	9/1/97	10/1/97	Unknown	Unknown	Fuel card and plates issued at same time.	Currently in discussions.
5.3	Implement a fuel policy.	Department Fleet Managers and CEO team.	Department Fleet Managers	9/1/97	10/1/97	Unknown	Unknown	Correct fuel purchases, according to fuel card exception reports.	
5.4	Track fuel usage per vehicle or engine utilizing vendor generated reports.	Department Fleet Managers and CEO team.	Department Fleet Managers	9/1/97	10/1/97	Unknown	Unknown	Correct fuel purchases, according to fuel card exception reports.	
6	Travel Methods								
6.1	Regularly analyze the cost of vehicle travel options on the per-mile basis.	CEO Team	Department Fleet Managers	9/1/97	None	Unknown	Unknown	Report on price differences between vehicle method	
6.2	Utilize state contracted rental vehicles on certain mileage one and two day trips.	Department Fleet Managers and CEO team.	Department Fleet Managers	9/1/97	None	Unknown	Unknown	Departments examine volume and cost reductions.	
6.3	Utilize the following rental contracts when choosing travel methods.	State employees	State employees	9/1/97	None	Unknown	Unknown	Increase in use of rental vehicles, while less use of personal vehicles.	

